



# 10 Things Your Mouth Says About Your Health

# Do you hear that?

## Your mouth is telling you something.

## Not with words, but with warning signs.

Researchers across medical disciplines have been finding a clear connection between the state of your mouth and the state of your health. From heart disease to cancer, what goes on in your mouth now can affect your health in the future.

The secret to interpreting the warning signs is closer than you think. Just look at your gums.

### Do any of these sound familiar?

- ▶ Your gums are red, swollen, and sore to the touch.
- ▶ Your gums bleed when you eat, brush or floss.
- ▶ You see pus or other signs of infection around the gums and teeth.
- ▶ Your gums look as if they are "pulling away" from the teeth.
- ▶ You frequently have bad breath or notice a bad taste in your mouth.
- ▶ Some of your teeth are loose or feel as if they are moving away from the other teeth.<sup>1</sup>

If you do, the American Academy of Periodontology says you may have beginning stages of gum disease. And you're not alone—according to the American Academy of Oral Systemic Health, 80% of Americans over the age of 35 have some form of gum disease.<sup>2</sup>

**Read on to learn what the warning signs are telling you... and what you can do about it.**



<sup>1</sup> <https://my.clevelandclinic.org/health/articles/11264-oral-health-risk-for-cv-disease>

<sup>2</sup> <https://www.aaosh.org/>



# Oral Bacteria is on the Move in Your Blood

# 1

## What's Happening Now

Your mouth is full of many types of bacteria. Over the course of a day, that bacteria forms a sticky, tooth-colored film on your teeth called plaque. If that plaque isn't removed, the bacteria can build up to dangerous levels.<sup>3</sup>

## What Could Happen

According to the Mayo Clinic, studies have found that the bacteria that causes gum disease can hitch a ride into your bloodstream and trigger an increase of C-reactive protein—a protein that causes inflammation in blood vessels.<sup>4</sup> Inflamed blood vessels, as you may know, increase the risk of heart disease.

What's more, the same bacteria can travel straight into your heart and directly infect your heart's sensitive valves.<sup>5</sup> This is especially dangerous if you have artificial valves.

## What You Can Do

Taking action today can prevent serious complications down the road. Prevention can be as simple as brushing and flossing your teeth. It's also important that you see a dentist regularly—they're trained in recognizing your mouth's warning signs and helping you treat them.



<sup>3</sup> <https://www.nidcr.nih.gov/health-info/gum-disease/more-info>

<sup>4</sup> <https://www.mayoclinic.org/healthy-lifestyle/adult-health/expert-answers/heart-disease-prevention/faq-20057986>

<sup>5</sup> <https://www.pennmedicine.org/updates/blogs/heart-and-vascular-blog/2019/march/gum-disease-and-heart-disease>

# Your Body Fights Oral Bacteria With... Sugar

# 2

## What's Happening Now

As bacteria builds up in your mouth, your gums become infected, making your gums puffy, sore, and even bleed. The American Dental Association warns that when your gums are in this state, normal activities like eating and brushing your teeth can release the dangerous bacteria into your bloodstream.<sup>6</sup>

## What Could Happen

Once in your bloodstream, your body will try to fight the bacteria by releasing powerful molecules that raise your blood sugar. This increase of glucose could increase your risk of contracting diabetes (including gestational diabetes). If you already have diabetes, it will make the disease harder to control and increase the risk of heart attack and stroke and damage your eyes and kidneys.<sup>7</sup>

If you have diabetes, you're also at a higher risk for developing gum disease and all of the complications that it can cause.<sup>8</sup>

## What You Can Do

Prevention! Keep up your good oral hygiene, and if you notice warning signs like red, puffy gums, see your dentist right away.



<sup>6</sup> [https://www.ada.org/~media/ADA/Publications/Files/FTDP\\_July2013\\_2.pdf?la=en](https://www.ada.org/~media/ADA/Publications/Files/FTDP_July2013_2.pdf?la=en)

<sup>7</sup> [https://www.ada.org/~media/ADA/Publications/Files/FTDP\\_July2013\\_2.pdf?la=en](https://www.ada.org/~media/ADA/Publications/Files/FTDP_July2013_2.pdf?la=en)

<sup>8</sup> <https://www.colgate.com/en-us/oral-health/diabetes-and-other-endocrine-disorders/diabetes-and-gum-disease-understanding-the-link-to-protect-your-health>



# Oral Bacteria Attacks Your Brain's Nerve Cells

# 3

## What's Happening Now

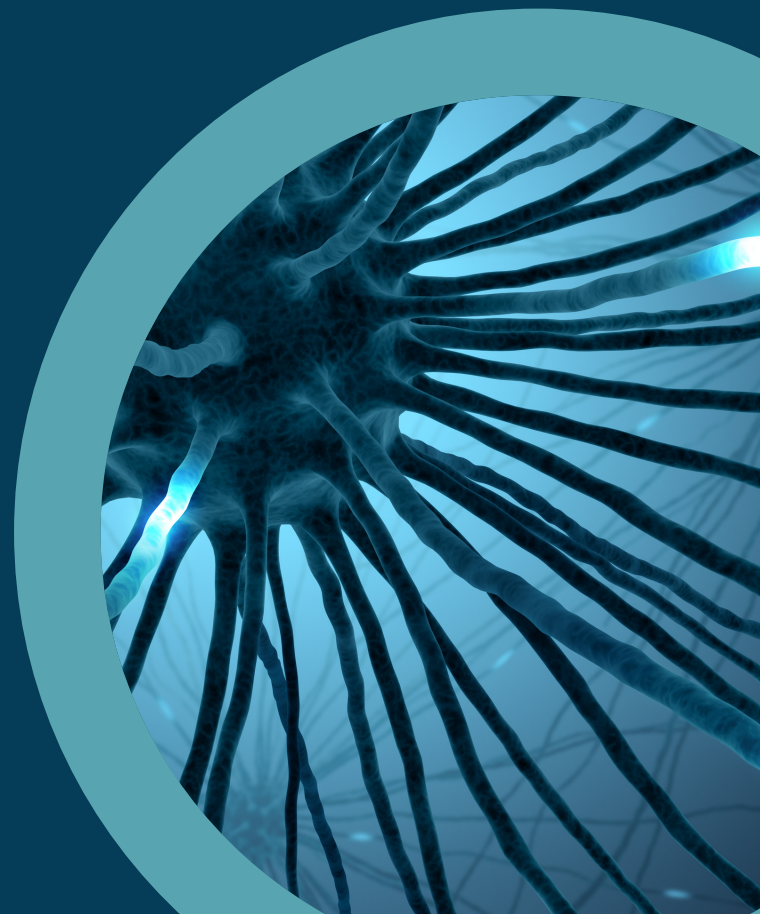
Did you know you have over 700 types of bacteria in your mouth? If left alone, many of these bacteria will cause infections and inflammation in your gums and mouth, and travel into your bloodstream through the infections.<sup>9</sup>

## What Could Happen

Harvard reported that one of the species of bacteria, *P. gingivalis*, can travel to the brain and release an enzyme known as a gingipain. Gingipains attack nerve cells and eventually cause memory loss and Alzheimers. In fact, in a 2019 study, researchers found high levels of gingipain in nearly all of the Alzheimer's patients they studied.<sup>10</sup>

## What You Can Do

While gingipains are not the only cause of Alzheimers,<sup>11</sup> maintaining good oral health and avoiding gum disease is an important part of keeping yourself healthy. In fact, the National Institute on Aging reported that people 65 and older with gum disease were more likely to develop Alzheimer's. No matter your age, it is essential to see a dentist regularly to diagnose and treat gum disease.



<sup>9</sup> <https://www.nia.nih.gov/news/large-study-links-gum-disease-dementia>

<sup>10</sup> <https://www.health.harvard.edu/mind-and-mood/good-oral-health-may-help-protect-against-alzheimers>

<sup>11</sup> <https://www.nia.nih.gov/news/large-study-links-gum-disease-dementia>

# The More Bone You Lose Due to Gum Disease, the Higher Your Risk for Cancer

# 4

## What's Happening Now

As plaque accumulates in your mouth and causes gum disease, your mouth will go through several increasingly serious stages. Starting with gingivitis and then advancing into slight, moderate, and advanced periodontal disease, your gums will form deep pockets of bacteria which will start eating away at your bones and teeth.

## What You Can Do

Did you know that gingivitis is the **ONLY** reversible stage of gum disease? All other stages can be treated, but never eliminated.<sup>13</sup> That's why it is so important to visit your dentist regularly to catch gum disease from the very start. Most symptoms don't start until gum disease has advanced beyond reversal, so you need expert eyes and tools to catch what you wouldn't otherwise see.

## What Could Happen

Researchers, in a study published in *Cancer Epidemiology, Biomarkers and Prevention*, found that each millimeter of bone loss due to chronic periodontitis brought more than a 4x higher risk of head and neck cancer than people without gum disease. This connection was strongest with cancers of the mouth, cancers of the oropharynx (back of the mouth and throat) and larynx (voice box).<sup>12</sup>



<sup>12</sup> <https://www.webmd.com/oral-health/news/20090908/advanced-gum-disease-may-raise-cancer-risk>

<sup>13</sup> <https://pasadenaperiodontics.com/different-stages-periodontal-disease/>

# Oral Bacteria Sends Dangerous Chemicals to Your Gut

5

## What's Happening Now

Remember *P. gingivalis*? This little bacteria is considered the keystone to gum disease.<sup>14</sup> When it shows up, gum disease gets serious. And if it isn't washed away by brushing, flossing, and treatments from your dentist, it starts to play serious havoc in your mouth.

## What You Can Do

The key to preventing nitrosamines is to get rid of the dangerous bacteria that cause gum disease. Daily oral health is the best first step, followed by regular visits to your dentist. Your dentist and hygienist can remove the built-up, hardened plaque called tartar that you can't eliminate on your own and prescribe other effective treatments.

## What Could Happen

In addition to travelling to your brain through the bloodstream, *p. Gingivalis* and a few of its buddies can create a dangerous chemical called nitrosamine that travels through your saliva into your esophagus and stomach.<sup>15</sup> Once there, the nitrosamines attack your healthy cells and can cause cancer. A study reported by Harvard found that people with gum disease were 43% more likely to develop cancer in their esophagus and 52% more likely in their stomach.<sup>16</sup>



<sup>14</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4746253/>

<sup>15</sup> <https://www.news-medical.net/news/20200720/Gum-disease-and-esophageal-and-stomach-cancer-risk.aspx>

<sup>16</sup> <https://www.health.harvard.edu/cancer/gum-disease-linked-to-an-increased-risk-for-cancer>



# Oral Bacteria Can Attack Your Lungs and Colon

# 6

## What's Happening Now

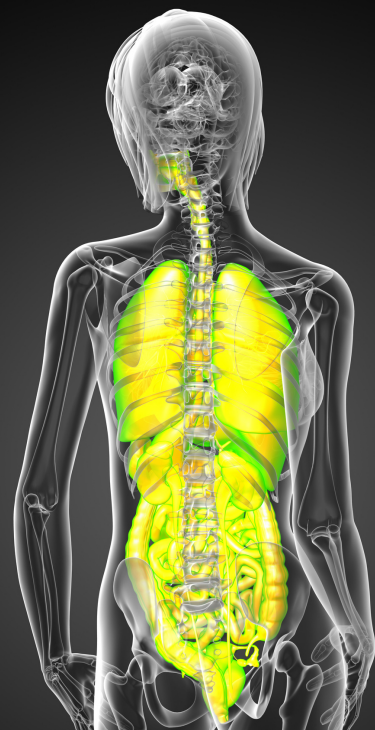
Do you smoke? If you do, you're putting your gums at risk. According to the CDC, smoking weakens your immune system, making it harder for your body to fight and heal from infections in your gums.<sup>17</sup> If left unchecked, the bacteria build up in your gums can start to travel through your bloodstream.

## What You Can Do

If you smoke, consider quitting. When you smoke, you are 2x as likely to develop gum disease.<sup>19</sup> But even if you don't smoke, you still need to be vigilant about preventing gum disease through establishing good brushing habits and seeing your dentist every 6 months.

## What Could Happen

A new study from researchers at Johns Hopkins found that people with severe gum disease are 24% more likely to develop lung and colon cancer. The researchers hypothesized that harmful bacteria from the mouth travels to the lungs and colon and causes an inflammatory response that could trigger cancer. In people who smoked, the risk for cancer was even higher.<sup>18</sup>



<sup>17</sup> <https://www.cdc.gov/tobacco/campaign/tips/diseases/periodontal-gum-disease.html>

<sup>18</sup> <https://www.hopkinsmedicine.org/news/newsroom/news-releases/more-evidence-of-link-between-severe-gum-disease-and-cancer-risk>

<sup>19</sup> Eke PI, Dye BA, Wei L, et al. Prevalence of Periodontitis in Adults in the United States: 2009 and 2010, Journal of Dental Research 2012.

# Pregnancy Gingivitis Puts Your Baby at Risk

# 7

## What's Happening Now

If you're pregnant, your hormones change and can trigger an inflammatory response that causes gum disease. In addition, pregnancy symptoms like morning sickness, nausea, and others can decrease your desire and ability to brush your teeth regularly. If this happens, you're not alone—up to 75% of women develop gingivitis during pregnancy.<sup>20</sup>

## What You Can Do

Since the risks associated with premature birth are so high, it's absolutely essential that you work with your dentist to monitor your gum health. In addition to regular brushing and flossing, the CDC also suggests that if you have morning sickness, you should rinse out your mouth with 1 tsp baking soda dissolved in a glass of water each time you're sick.<sup>22</sup>

## What Could Happen

If your pregnancy gingivitis goes undetected and untreated, several risks could develop. First, your gum disease could trigger an increase of prostaglandin—a labor-inducing compound found in oral bacteria. Too much prostaglandin can prompt preterm labor and result in a low-weight, premature baby. In addition, the same C-reactive protein that can cause heart disease can prompt blocked arteries which cause heart attacks and stroke.<sup>21</sup>



<sup>20</sup> <https://theconversation.com/how-gum-disease-in-pregnant-women-poses-a-risk-to-their-newborns-55484>

<sup>21</sup> <https://www.teethbydrtd.com/procedures/periodontics/periodontal-disease-and-pregnancy/>

<sup>22</sup> <https://www.cdc.gov/oralhealth/publications/features/pregnancy-and-oral-health.html>

# Gum Disease Makes Your Lung Disease Worse

# 8

## What's Happening Now

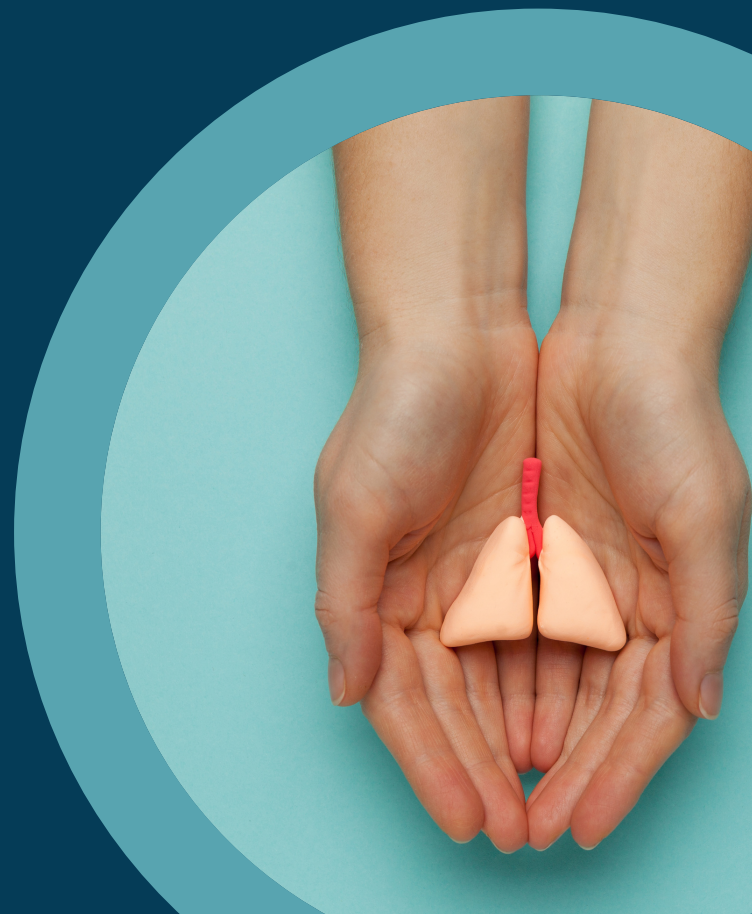
If you have lung disease like asthma or COPD, you're already battling chronic inflammation. As the American Thoracic Society explains, your damaged lungs are less effective at defending themselves against infection. If you're not managing your oral health, you're actively building up an army of bacteria that can strike your weakest point—your lungs.

## What Could Happen

Oral bacteria can hitch a ride on tiny droplets of saliva you inhale when you breathe and infect and inflame your airways, making your lung symptoms worse.<sup>23</sup> The Journal of the COPD Foundation discovered that patients with gum disease had more frequent respiratory symptoms, and a study in the Journal of Periodontology found a clear connection between people with asthma and oral infections.

## What You Can Do

While maintaining good oral health won't cure your lung disease, it can make it more manageable. Make sure to brush and floss regularly and see your dentist twice a year. If you use inhaled steroids, always rinse your mouth out after each use to prevent an oral fungal infection called thrush.



<sup>23</sup> <https://www.thoracic.org/patients/patient-resources/resources/dental-health.pdf>



# Oral Bacteria Attacks Proteins in Your Joints



## What's Happening Now

When plaque builds up on your teeth and bacteria flourish, certain bacteria attack your gums and underlying bone. The process of destruction, called hypercitrullination, attacks proteins and creates inflammation, triggering an autoimmune response.

## What You Can Do

While the connection between the two diseases is not yet completely understood, keeping the Aa bacteria under control in your mouth could be an important way to control and even prevent RA. The best way to do that is with proper oral hygiene at home as well as visiting your dentist regularly.

## What Could Happen

A new study from the Johns Hopkins University Division of Rheumatology found that the same hypercitrullination that happens in gum disease also takes place in the joints of people with rheumatoid arthritis. In fact, the researchers found the oral bacteria called Aa in half of the patients they studied with RA. They also found that Aa was an important part of causing RA in people who were genetically predisposed to it.<sup>24</sup>



<sup>24</sup> <https://www.thoracic.org/patients/patient-resources/resources/dental-health.pdf>

# Gingivitis Can Cause Blood Clots

# 10

## What's Happening Now

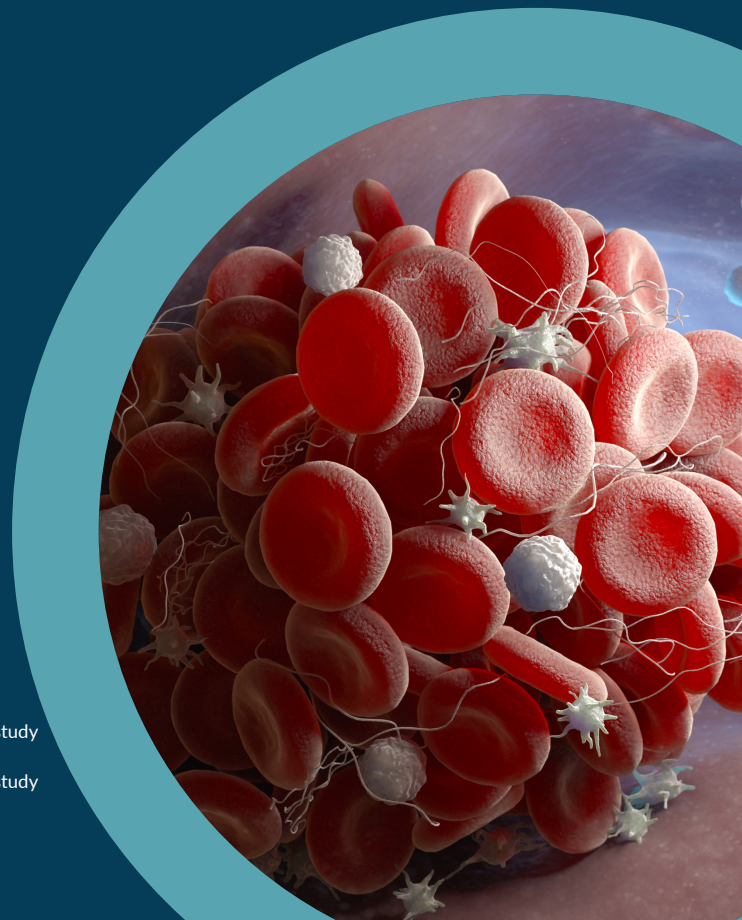
Plaque builds up on your teeth every day. When you brush and floss, that plaque goes away. But when you don't brush and floss, plaque builds up into hard-to-remove tartar and the associated bacteria starts to eat away at your gums, making them inflamed and liable to bleed. When this happens, researchers have discovered it can change how blood and oxygen flows to your brain.<sup>25</sup>

## What You Can Do

It's important to stay on top of your oral health by brushing and flossing daily and visiting your dentist regularly. Even gingivitis—the earliest stage of gum disease—has been linked to strokes.<sup>28</sup>

## What Could Happen

As with our discussion about heart attack and pregnancy risk, when oral bacteria get into your bloodstream, they can trigger the C-reactive protein to rise and create inflammation in your blood vessels.<sup>26</sup> This can cause your blood to clot and increase your risk of stroke. In fact, a study from Vascular Health and Risk Management found that people with gum disease are 2x more likely to have a stroke.<sup>27</sup>



<sup>25</sup> <https://www.dentalhealth.org/news/gum-disease-doubles-stroke-risk-according-to-new-study>

<sup>26</sup> <https://my.clevelandclinic.org/health/articles/11264-oral-health--risk-for-cv-disease>

<sup>27</sup> <https://www.dentalhealth.org/news/gum-disease-doubles-stroke-risk-according-to-new-study>

<sup>28</sup> <https://www.verywellhealth.com/dental-problems-can-lead-to-stroke-3145903>

# BONUS: Your Airways May be Blocked When You Sleep

While not linked directly to gum disease, your mouth also has plenty to tell you about Obstructive Sleep Apnea.

## What's Happening Now

When you sleep, the muscles around your soft palate at the back of your mouth relax. For most people, there is still enough room for air to easily circulate. But according to the American Academy of Sleep Medicine, 26% of adults between the ages of 30 and 70 have obstructed airways.<sup>29</sup>

## What Could Happen

Obstructed airways lead directly to obstructive sleep apnea (OSA), a condition where you literally aren't breathing enough when you sleep. This condition, in addition to annoying symptoms like snoring and daytime exhaustion, can lead to serious medical complications like hypertension, stroke, depression, diabetes, cancer, and even death.

## What You Can Do

Of the estimated 18 million people in the US who have OSA, 80% have not been diagnosed!<sup>30</sup> If you are experiencing symptoms like snoring, waking up tired, dry mouth, headaches, and irritability, talk to your dentist. Surprised? Dentists are the perfect providers to help you diagnose OSA and give you treatment options beyond CPAP machines that can help resolve your OSA altogether.



<sup>29</sup> <https://aasm.org/rising-prevalence-of-sleep-apnea-in-u-s-threatens-public-health/>

<sup>30</sup> <https://ineedbettersleep.com/faqs/sleep-apnea-statistics/>



# Ready to listen to your mouth?

Sierra Smiles's proactive approach to your complete health will help you get and stay healthy.

*Enjoy less painful, less expensive treatments that keep your whole body healthy.*

## When You're Proactive, There's No Need to Fear

**We're here to help with:**

- ▶ **PROACTIVE CARE:** We work to keep your mouth healthy and avoid future problems with noninvasive treatments, screenings, sealants, and more.
- ▶ **IMPORTANT WELLNESS VISITS:** Your twice-yearly visits will help you keep your teeth and gums healthy and strong.
- ▶ **OVERALL HEALTH:** When your mouth is healthy, your whole body thrives! Healthy teeth and gums will help you prevent several chronic illnesses like heart disease, diabetes, and Alzheimer's.

**CALL TODAY**  
755-786-1911



# The process is easy:

- ▶ **Partner with you:** Starting with an initial thorough evaluation, we'll assess your dental and overall health.
- ▶ **Create a plan:** We partner with you and your physicians to build a transformational approach to your health and wellness.
- ▶ **Transform your smile:** We use only the best technology and latest techniques to not only give you a great smile, but feel healthier and happier than you ever imagined!

## Get Excited About Your Grin

We're here to help you feel better, breathe better, even sleep better! Our proactive care will help you get healthy so you can enjoy life to the fullest.

**CALL TODAY**  
755-786-1911

